



## PUBLIC HEALTH FACT SHEET

## Botulism

### The Disease

Botulism is a rare but serious paralytic illness caused by a nerve toxin that is produced by the bacterium *Clostridium botulinum*.

There are three main kinds of botulism.

- Foodborne botulism is caused by eating foods that contain the botulism toxin.
- Wound botulism is caused when a wound is infected with *C. botulinum*.
- Infant botulism occurs when babies eat foods containing spores of botulinum bacteria, which then grow in the intestines and release toxin.

All forms of botulism can be fatal and are considered medical emergencies. Foodborne botulism can be especially worrisome because many people can be poisoned by eating contaminated food.

In the U.S. an average of 110 cases of botulism are reported each year. Of these, approximately 25 percent are foodborne, 72 percent are infant botulism, and the rest are wound botulism.

### Symptoms

The classic symptoms of botulism include double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth and muscle weakness. Infants with botulism appear lethargic, feed poorly, are constipated, and have a weak cry and poor muscle tone. These are all symptoms of muscle paralysis caused by the bacterial toxin.

If untreated, these symptoms may progress to cause paralysis of the arms, legs, trunk and respiratory muscles. In foodborne botulism, symptoms generally begin 18 to 36 hours after eating contaminated food, but they can occur as early as 6 hours or as late as 10 days following consumption of contaminated food.

### Diagnosis

Physicians may consider the diagnosis if the patient's history and physical examination suggest botulism. Special tests may be needed to exclude other conditions. The most direct way to confirm the diagnosis is to demonstrate the botulinum toxin in the patient's serum or stool by injecting serum or stool into mice and looking for signs of botulism. The bacteria can also be isolated from the stool of persons with foodborne and infant botulism. These tests can be performed at the New Jersey Public Health and Environmental Laboratories and at the Centers for Disease Control and Prevention (CDC).

## **Treatment**

The respiratory failure and paralysis that occur with severe botulism may require a patient to be on a breathing machine (ventilator) for weeks, plus intensive medical and nursing care. After several weeks, the paralysis slowly improves. If diagnosed early, foodborne and wound botulism can be treated with an antitoxin which blocks the action of toxin circulating in the blood.

Treatment with antitoxin can prevent patients from worsening, but recovery still takes many weeks. Physicians may try to remove contaminated food still in the digestive tract by inducing vomiting or by using enemas. Wounds should be treated, usually surgically, to remove the source of the toxin-producing bacteria. Good supportive care in a hospital is the mainstay of therapy for all forms of botulism. Currently, antitoxin is not routinely given for treatment of infant botulism.

Botulism can result in death due to respiratory failure. However, in the past 50 years the proportion of patients with botulism who die has fallen from about 50 to eight percent.

People with symptoms of botulism should seek medical attention immediately. Early diagnosis and antitoxin are critical for patient recovery.

## **Reducing the Risk**

Botulism can be prevented. Foodborne botulism has often resulted from eating improperly home-canned foods.

Because the botulism toxin is destroyed by high temperatures, persons who eat home-canned foods should consider boiling the food for 10 minutes before eating it to ensure safety. Instructions on safe home canning can be obtained from county extension services or from the US Department of Agriculture.

Never feed honey to infants under the age of one year.

## **Botulism and Bioterrorism**

According to the Centers for Disease Control and Prevention (CDC), *C. botulinum* could be used as a biological weapon, resulting in sickness and death.

## **For More Information Contact**

- Your healthcare provider
- Your local department of health
- The New Jersey Dept. of Health and Senior Services, Communicable Disease Service at (609) 588-7500
- You can also visit the following websites:
  - The New Jersey Department of Health and Senior Services website at [www.nj.gov/health](http://www.nj.gov/health)
  - The CDC website at <http://www.bt.cdc.gov/agent/botulism>.